



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,430	02/28/2002	Glen Edward Gould	8285-502	4865
7590 09/15/2004				
Jason C. White BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610		EXAMINER PAK, SUNG H		
		ART UNIT PAPER NUMBER		
		2874		

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,430

Applicant(s)

GOULD ET AL.

Examiner

Sung H. Pak

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3, 5-12 and 14-21 is/are rejected.
7) ☒ Claim(s) 4 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Art Unit: 2874

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/02/2004 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US 4,846,565) in view of Mullaney et al (US 5,323,480) as stated in the prior office action.

Swanson et al reference discloses a fiber optic patch device with all the limitations set forth in the claims, except it does not teach a splice housing containing the first and second ends of the fiber optic cable. Specifically, Swanson et al discloses: a fiber optic patch cable having first and second ends (“16” Fig. 1); a first mechanical fiber optic splicer disposed in an enclosure adapted to be coupled with the first end of the fiber optic cable and the first end of the fiber optic patch (Fig. 4); a second mechanical fiber optic splicer disposed in an enclosure adapted to be coupled with the second end of the fiber optic cable and the second end of the fiber optic patch (Fig. 4); a water-tight protective carrier housing defining an internal cavity (Figs. 5-6, column 8 lines 2-3), the internal cavity being adapted to receive the first and second mechanical fiber optic splicers disposed in enclosures and the fiber optic patch (Fig. 5, column 7 line 40-column 8 line 3); wherein the fiber optic patch may comprise plurality of fibers (Fig. 4- at least two fibers are shown).

Mullaney et al reference, on the other hand, explicitly teaches a water-tight *splice* housing containing first and second ends of the optical fiber cables being spliced (Figs. 1-3). Mullaney et al reference teaches that such an arrangement is advantageous and desirable over prior art devices because it is capable of carrying plurality of splice trays and prevent undesirable bending in fiber optic cables (column 3 lines 25-44). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Swanson et al device to be placed inside of Mullaney et al’s water-tight splice housing.

Regarding claims 3, the enclosures “20” and “24” in Fig. 1 may be referred to as “splice trays.”

Art Unit: 2874

Regarding claim 7, although Swanson et al does not explicitly teach the use of a fiber optic ribbon, fiber optic ribbons are well known and common in the art. Fiber ribbons provide a well known advantage of having plurality of fibers such that they are organized in a tightly confined, space efficient configuration that prevents the fibers from being tangled together. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Swanson to use fiber optic ribbon.

Claims 8-12, 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US 4,846,565) in view of Mullaney et al (US 5,323,480) as applied to claims above, and further in view of Yin et al (US 5,312,468).

Yin et al was cited in previous office actions.

Swanson et al and Mullaney et al render obvious a fiber optic patch device with all the limitations set forth in the claims as discussed above, except they do not teach angle cleaving of fiber optic ends. Regarding claims 8 and 17, Although Swanson et al reference does not explicitly spell out the method of patching fiber optic cables, the method steps would be inherently carried out by using the device disclosed as discussed in the rejection of earlier claims.

Even though Swanson et al does not disclose the method of angle cleaving optical fiber ends as recited in claims 9-11, and 18, such a method is known in the prior art as taught by Yin et al (Fig. 4, and abstract). Yin et al reference teaches that angled cleaves are advantageous because they minimize back reflections at the fiber coupling points (column 1 lines 5-36).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Swanson et al teachings to include a method of angle cleaving optical fiber ends. It would have been desirable to minimize back reflections.

Allowable Subject Matter

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The obviousness type double patenting rejection had been withdrawn in view of the terminal disclaimer filed 10/01/2003.

Response to Arguments

Rejection of claims 1-3, 5-7:

Starting on page 7 of the applicants' response, it is argued that 1) Swanson teaches away from having a splice housing, which encloses splice trays, fiber optic patch and fiber optic ends, and 2) Mullaney does not disclose that a fiber optic patch can be used in conjunction with the housing disclosed therein, specifically that Mullaney contains no mention or discussion of any fiber optic patches.

1) Swanson does not teach away from having a splice housing

It is argued that Swanson teaches away from having a splice housing because Swanson reference teaches an apparatus "light in weight and compact and reasonably small in size so that

Art Unit: 2874

it can readily be stored and the technician can easily carry it to the break point even if several hundred yards from the vehicle.” (column 1 lines 64-68). Also it is argued that Swanson reference teaches that the “apparatus be a completely self contained unit having everything needed except tools.” (column 2 lines 9-11).

In response, the examiner respectfully submits that the disclosure of Swanson does NOT teach away from having a splice housing, and that applicants have mischaracterized the Swanson reference.

First, having a *splice* housing that encloses the splice tray, fiber optic patch and fiber ends does NOT make the device unreasonably heavy in weight and bulky in size, such that it cannot be readily stored and be carried to the break point. As evidence supporting this argument, the examiner respectfully points to figure 5-6 of Swanson. Swanson discloses a *carrier* protective housing that encloses splice trays and fiber optic patch, in which the technician may use to carry the fiber optic patch of Swanson (column 7 lines 40-45). Indeed, this housing is only disclosed as being used as a storage device prior to the patch deployment, and it does not contain fiber optic ends as claimed in this application. If it did, then the claims would have been fully anticipated and rejected under 35 USC 102. Nevertheless, the use of a carrier protective housing evidences that the fiber optic patch and the splice trays may be conveniently enclosed in a protective housing. If this housing made the fiber optic patch device of Swanson ‘unreasonably heavy in weight and bulky in size’, the technician would not be able to use it to carry the fiber patch device to the break point as discussed in column 7 lines 40-45 of Swanson. Thus, the use of a splice housing that encloses the splice tray, fiber optic patch and fiber ends would not make the device unreasonably heavy and bulky as applicants assert.

Art Unit: 2874

Second, the examiner respectfully submits that Swanson's goal of having a "completely self contained unit having everything needed except tools" is accomplished by having a "preterminated cable apparatus" having mechanical splicing elements pre-arranged in splice trays as shown in Fig. 4 (column 2 lines 14-68). Since having a splice housing enclosing fiber optic patch does not get in the way of having a preterminated cable apparatus having pre-arranged mechanical splices, Swanson does NOT teach away from having an external housing.

2) Mullaney et al is properly combined with Swanson to render the claimed limitations obvious

On page 8 of the applicants' response, it is argued that Mullaney et al "does not disclose that a fiber optic patch can or should be used in conjunction with the housing disclosed therein."

The examiner respectfully submits that, while it is true that neither Swanson nor Mullaney *individually* disclose *all* the claimed limitations, Swanson *in view of* Mullaney render all the claimed limitations obvious. As discussed in previous office actions, and reiterated in this office action, Swanson explicitly teaches the use of fiber optic patch and Mullaney explicitly teaches the use of splice housing. There is a clear motivation for combining the device of Swanson with the splice housing of Mullaney, in view of the advantage disclosed in Mullaney (see the claim rejection above).

Mullaney does not explicitly disclose the use of a "patch" since all the fibers have long slack and do not require extra 'patch' for splicing (see Fig. 2). Nevertheless, the disclosed structure of Mullaney is fully capable of receiving the fiber patch structure disclosed in Swanson

Art Unit: 2874

since the long fiber slack disclosed in Mullaney is analogous to fiber patch disclosed in Swanson.

Thus, there is a reasonable expectation of success in combining the two references.

Since the references (when *combined*) teach *all* the claimed limitations, and there is a clear motivation to combine the references with reasonable expectation of success, a *prima facie* case of obviousness had been established and the claim rejection is proper.

For the above stated reasons, the examiner is unconvinced by the applicants' arguments that proposed combination/ modification of Swanson et al. and Mullaney et al. is improper.

Rejection of claims 8-12, 14-21:

Starting on page 9 of the applicants' response, it is argued that there is no motivation or suggestion to combine the teachings of Swanson et al. and Yin et al.

The examiner respectfully submits that there is a clear motivation to employ the angle cleaving of Yin et al. in the mechanical splicing of Swanson et al. as discussed in previous office actions and reiterated in this office action. In addition to Yin et al.'s disclosure, the 'angle cleaving' is well known in the art for preventing back-reflections of optical signals at fiber coupling points. As discussed in the claim rejection, this advantage is elaborated in Yin et al. In view of the advantage, it would be obvious to a person of ordinary skill in the art at the time the invention was made to modify Swanson's device to have angle cleaving as taught by Yin et al.

Art Unit: 2874

In addition, applicants have amended claims 8 and 17 to recite a "single" splice housing. However, the amendment does not obviate the claim rejection. Please refer to the discussion above (Rejection of claims 1-3, 5-7).

In view of the above, the examiner is unconvinced that this application is in condition for allowance, and the claim rejection is maintained in this office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sung H. Pak
Examiner
Art Unit 2874

sp